

KHALED S. YOUNIS, PHD, MSEE

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EDUCATION AND PROFESSIONAL CERTIFICATIONS

UNIVERSITY OF DAYTON| USA| **PhD, Computer Engineering**, 1999, GPA: 3.89/4.0

- Dissertation: Automatic Target Recognition Application in Mammography and Synthetic Aperture Radar Images
- Sample Courses: Computer Networks, Digital Image Processing and Computer Programming (VHDL, C++, Java, and Windows), Web publishing

AIR FORCE INSTITUTE OF TECHNOLOGY| USA| Master of Science in Electrical Engineering, 1996,

DISTINGUISHED GRADUATE, GPA: 3.94/4.0. Completed the requirements for two Master's degrees

- Thesis: Weighted Mahalanobis Distance for Hyperellipsoidal Clustering. Nominated for the Commandant award for outstanding research.
- Sample Courses: Pattern Recognition, Expert Systems and Neural Networks, Machine Learning, Communications, and Digital Signal Processing.

MU'TAH UNIVERSITY | JORDAN | **Bachelor of Science in Electrical Engineering**, 1990, THE TOP GRADUATE

CAREER PROGRESSION & KEY PROJECTS

UNIVERSITY OF ILLINOIS AT CHICAGO• IL, USA

Jan2017-PRESENT

VISITING ASSISTANT PROFESSOR, COMPUTER SCIENCE DEPARTMENT

- **Performed advanced** research on Machine Learning collaborating with research groups from the Departments of Computer Science and Electrical and Computer Engineering in addition to giving lectures and seminars.

UNIVERSITY OF JORDAN• JORDAN

Jan2015-PRESENT

ASSISTANT PROFESSOR, COMPUTER ENGINEERING

- **Received** a research fund grant that from Deanship of Scientific Research for 17500 JOD for a project "Deep Learning Applications in the Fields of Character and Object Recognition"
- **Won** a grant from the European Union (Erasmus+ Higher Education teachings mobility) to teach and perform research at Philipps-Universität Marburg in Germany for one week in Jan 2017.
- **Won** a grant from the European Union (Erasmus+ Higher Education teachings mobility) to teach and perform research at the Middle Eastern Technical University (The Best University in Turkey) for one week.
- **Won** a grant from the European Union (Erasmus+ Higher Education teachings mobility) to teach and perform research at Ataturk University in Turkey in May 2016 for one week.
- **Supervised** the winner project (3rd place) in the 9th National Technology Parade for best graduation projects in Jordanian universities/Defense and Security track
- **A Co-investigator** (Co-Grant Holder) in the 1M Euro Erasmus+ Project "Modernization of teaching methodologies in Higher education: EU experience for Jordan and Palestinian Territories (**METHODS**)".
- **Director** of Machine Learning Research Lab with six current engineers and students. Alumni of this Lab are working for Google, Microsoft, Morgan Stanley, Post-doctoral researcher at Berkeley Lab, etc.
- **Received** a research fund grant that from Hamdi Manko Center for "Industrial Automation using Machine Learning for the application of Internet of Things"
- **Received** a research fund grant for the project "Face Recognition and tracking using deep Learning" from King Abdullah Development Bureau
- **Developed** and delivered material for the "Neural Network and Fuzzy Logic" and "Pattern Recognition" courses
- **Completed** 21 Hours of extensive training by EU Horizon 2020 evaluators and staff about "Proposal Writing for H2020 EU funding opportunities" and "Horizon 2020 Project Management".
- **Served** as a member of the judging committee and of the executive committee for the 8th National Technology Parade that was held at the University of Jordan for best engineering graduation projects in Jordan
- **Completed** 80 Hours of Intel Galileo Development Board Technical Training And Ideation Workshop
- **Invited** by Intel to be one of the Community Partners to the ChallengeME! IoT competition for the MENA region.
- **Attended** training by Microsoft on Cloud Computing using Microsoft Azure and Imagine platforms
- **Reviewed** articles for The Institute of Engineering and Technology (IET) Computer Vision journal.

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- **Served** as member of the Department's ABET Accreditation, Senior Project, Curriculum Development committees.

GERMAN JORDANIAN UNIVERSITY • Jordan

2014-PRESENT

ADJUNCT ASSISTANT PROFESSOR, COMPUTER ENGINEERING AND COMPUTER SCIENCE

- **Taught** computer organization and architecture, computer languages, Electric circuits and Labs.
- **Participated** in a multinational consortium including Academic universities and industrial companies for a proposal for HORIZON 2020, The EU Framework Program for Research and Innovation.

TERARECON, INC. • Foster City, CA

2008-2014

INTERNATIONAL SALES MANAGER—MIDDLE EAST, AFRICA

- **Grew** business from one account to over 30 accounts including the best medical cities, university hospitals, specialist hospitals and research centers, and public and private hospital.
- **Produced** excellent growth to produce sales in excess of \$1.3M Million/year
- **Penetrated** new territory landing first-time wins in more than 10 countries.
- **Managed** local office establishment and an A-caliber team in territory.
- **Represented** the company in regards to all operations, regulatory affairs, import, shipping, training, etc.
- **Built** and **maintained** excellent relationships with radiologists, cardiologists, administrators, and other key professionals and consistently grew loyal customer base by leading business development efforts.
- **Contrived** to win the continuous support of customers and channel partners (PACS and modality vendors).
- **Assessed** needs, recommended solutions, learned about specific clinical applications and workflows, provided first demos, and provided feedback with excellent communication skills for product development and R&D teams.
- **Researched** the market for related products understanding clinical features and conveying the messages to our R&D team to develop our products (upstream marketing).
- **Expanded** reach into different sectors (diagnostic imaging, cardiac, surgery, IT, and hospital administration)

CAREER HIGHLIGHTS:

Top sales manager outside of North America for Q1/Q3 in 2013

UNIVERSITY OF JORDAN • Jordan

2005-2008

ASSISTANT DEAN—DEVELOPMENT, COMPUTING AND IT, FACULTY OF GRADUATE STUDIES

ASSISTANT PROFESSOR, COMPUTER ENGINEERING DEPARTMENT

- **Recognized** with the fourth-place award in the IEEE Computer Society International Design Competition World Finals held in Washington DC in 2006. University of Jordan was the only university in the Middle East to be among the top ten universities. The AviTrack project built a microcontroller to mechanically track migrating birds and then automatically identifies bird species based on their vocalization.
- **Activated** the Faculty of Graduate Studies website and email system for all graduate students and made forms available online, which solved big problems, improved sharing of information, and slashed cost substantially.
- **Organized** the first International Conference for Graduate students and reviewed submission for paper acceptance and award's recipient selection
- **Directed** Machine Learning research lab, managing more than 15 researchers
- **Built** graduate program in Computer Engineering department and supervised Master's students' thesis
- **Developed** and delivered material for the pattern Recognition, Digital Image Processing, and Matlab Programming.
- **Improved** the material for the courses taught and was nominated for the university award for the best e-course
- **Taught** several courses very efficiently including courses that were introduced to the Computer Engineering Program Plan. Supervised many MSc and BSc research.
- **Received** a grant from the Polytechnic University of Valencia to perform research in Spain under the program "Invitation of Prestige Foreign Researchers" and orchestrated the signing of cooperation agreement between the two universities
- **Set up** Advanced Microprocessor lab with a new kit and devised lab experiments.
- **Invited** to give a talk during the **2007 Annual Engineering Forum, Achievements and Success Stories.**

CAREER HIGHLIGHTS:

Was awarded the University of Jordan Badge during the Excellence Day for Academic year 2006/2007

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- **Won** the Ministry of Higher Education and Scientific Research Award for the Most Outstanding Research Project in the Faculty-For-Factory National Program in 2007 among 94 faculty members from all universities in Jordan. This competition focuses on practical projects that enhance Industry in Jordan.
- **Won** the Ministry of Communications and Information technology 1200 JOD Award for the project “University Academic Website” during the first National Technology Parade in 2008.
- **Started** The University of Jordan Cisco Networking Academy as one of the first instructors and attended training in Lebanon. Completed CCNA 1-4.

COMMITTEES AND PROJECTS

- Establishing Graduate program in the Computer Engineering Department
- ABET Accreditation Committee
- **JU e-Learn** project to develop an electronic learning system for the University of Jordan.
- Faculty Search Committee

FUND RECEIVED

- Hamdi Manko Institute for research (35,000 JD) for Development of new computational algorithm using genetic algorithm (GA), K nearest neighbor (KNN) and statistical techniques for automatic variable selection for drug discovery
- One of the winning proposal for The Arab Science and Technology Foundation (ASTF) research grant for \$50,000. Letter of Intent (LOIs) passed the preliminary screening of the ALJ grant for the second funding cycle of 2006 and two projects for the first funding cycle of 2007.
- Deanship of Academic Research at the University of Jordan (17,200 JD) for Development of Automated Monitoring of Night migrating birds.
- King Abdullah II Design and Development Bureau (KADDB) fund (15,000 JD) on the Project of Implementation of OLE for Process Control (OPC) in factories.
- The Royal Society for Conservation of Nature for two projects (1000 JD); the first is automatic identification nocturnal bird call detection and classification using sound analysis and the second for wireless image analysis for nesting behavior monitoring

MASTER'S STUDENT THESES COMMITTEE MEMBER:

- Yara AbdElkhaleq : Software Engineering - Requirement Document Extraction from natural language, 2006
- Mousa Al-Yaman : Digital Image Processing, Multimedia security and data hiding (watermarking), 2006
- Reem Ali : Image Processing – Medical Image Registration, 2006

CROWN MIDDLE-EAST CAN COMPANY• CROWN HOLDINGS PLANT IN JORDAN

2006

CONSULTANT, FACULTY FOR FACTORY (FFF) PROGRAM

Applied the Openness, Productivity and Connectivity (OPC) standards specification for predicting machine failure after discovering from problem symptoms the root cause.

AMMAN ARAB UNIVERSITY FOR GRADUATE STUDIES•Jordan

2006

Adjunct Professor in the department of Graduate College of Computer Studies teaching Advanced Topics in Computer Performance Evaluation for Ph.D. Level students.

NEW YORK INSTITUTE OF TECHNOLOGY •Jordan2006

Adjunct Professor in the department of electrical and computer engineering teaching Internet Programming Languages and Microprocessors.

ICAD, INC. •Nashua, NH

1997-2005

CONSULTANT

- **Co-founded** Qualia Computing Co. in 1997 which acquired CADx Systems and both merged with iCAD in 2003
- **Marketed** iCAD's products to radiologists and hospital administrators in Jordan.
- **Produced** image processing algorithms for design, implementation, testing, and validation documentation of the FDA approved SecondLook® product that have been placed in over 35000 healthcare practices worldwide
- **Devised** a novel, unsupervised clustering technique that grouped cancer detections and reduced false alarms.
- **Formulated** a mathematical technique to apply iCAD's algorithm to any film digitizer.

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- **Acted** as a progenitor for new iCAD products in medical imaging and other applications; Computer-Based Drug Design, Bioinformatics, Dental applications, Intelligent Patient Monitoring, and Skin Cancer detection. Lung Cancer Computer-Aided Diagnosis, Computer-Aided Diagnosis in Virtual Colonoscopy
- **Created** a Graphical User Interface for the Computer Aided Diagnostic (CAD) tool QuickGhange™ for Lung Cancer detection. This tool was adopted for Virtual Colonoscopy. ICAD secured agreements with advanced visualization companies TeraRecon, Vital Images and Viatronics for integrating its CT CAD technology.
- **Participated** in different stages of software product development lifecycle
- **Developed and delivered** presentation in the special session on Computer Aided Diagnosis during Fifth Cairo International Biomedical Engineering Conference (CIBEC 2010)

UNIVERSITY OF DAYTON • Dayton, OH

1997-1999

INSTRUCTOR, TEACHING ASSISTANT.

- **Taught** Electronic Devices Laboratory with P-spice circuit design software. Designed the experiments and gave pre-experiment theoretical lecture.
- **Worked** part-time in lab administration for the computer lab in both the School of Engineering and Computer Sciences.
- **Reviewed** articles for publication in IEEE Optical Engineering Journal.

AIR FORCE INSTITUTE OF TECHNOLOGY • Dayton, OH

1994-1996

RESEARCH TEAM MEMBER

- **Conducted** state-of-the-art research into artificial intelligence and automatic target recognition.
- **Lectured** and demonstrated novel, unsupervised learning (clustering) technique.
- **Became** a member of the honor societies "Eta Kappa Nu" and "Tau Beta Pi".
- **Chair** of a technical area in the IEEE National Aerospace and Electronics Conference (NAECON) 1998. Reviewed conference submissions for acceptance and moderated the conference sessions.
- **Chair** of two sessions in the fields of Neural Networks and sensor fusion in the IEEE National Aerospace and Electronics Conference (NAECON) 1998.

ROYAL JORDANIAN AIR FORCE • AMMAN, JORDAN

1990-2006

ELECTRONIC WARFARE ENGINEER

- **Lectured** at King Faisal College-Balqaa Applied University (Information Warfare, Communications and Radar)
- **Authored** many books in the areas of Information warfare, Radar and communications for training courses.
- **Contributed effectively** to the technical and research needs of the Air Force.
- **Evaluated** and programmed state-of-the-art equipment for simulation and tactical warfare operations.
- **Won** a Master's Degree Scholarship after obtaining the highest marks in Toefl and GRE among 12 contenders
- **Represented** the Jordanian Air Force superbly and earned a Ph.D. scholarship from the Dayton Area Graduate Studies Institute (The first international student to win a scholarship with stipend)
- **Lead** the Electrical and Computer Engineering division in the Research and Development Unit in the Air Force
- **Distinguished** Graduate of English Language Diploma, at Lackland Air Force Base, Texas.

PATENTS AND SOFTWARE COPYRIGHTS

- Patent: Pending at the Jordan Ministry of Industry and Trade, "A method and apparatus for the computer aided detection (CAD) and recognition of migrating bird species based on recording of their vocalization"
- Software Copyright: Binding Interactions Locator - Docking-based Comparative Intermolecular Contacts Analysis (dbCICA). Khaled Younis and Mutasem Taha. 2008.
- Software Copyright: QSARtool - Access to Nonlinear Quantitative Structure-Activity Relationship Analyses. Khaled Younis and Mutasem Taha. 2008.

BOOKS AND PUBLICATIONS

- K. Younis, and A. Alkhateeb, "A New Implementation of Deep Neural Networks for Optical Character Recognition and Face Recognition", 2nd International Workshop on Data Science and Computing, 2017 (Submitted).
- A contributing author for Discrete-Time Signals and Digital Signal Processing with MATLAB, with Taan ElAli, 2004, the CRC Press. ISBN 0-8493-1093-8
- A contributing author for Continuous Signals and Systems with MATLAB, 2nd Edition, with Taan ElAli and Mohammad Karim, CRC Press 2008, ISBN-13: 978-1420054743.
- A contributing author for "Solved Problems in DSP with MATLAB", with T. ElAli and M. Basunia, published in 2004 by the CRC Press.
- M. Taha, M. Habash; S. Abuhamdah; K. Younis: Docking-Based Comparative Intermolecular Contacts Analysis And In Silico Screening Reveal New Potent Acetylcholinesterase Inhibitors. Journal of Molecular Structure (submitted 2016).
M. Taha, M. Habash, Z. Al-Hadidi, **K. Younis**, S. Sisan: Docking-Based Comparative Intermolecular Contacts Analysis as New 3-D QSAR Concept for Validating Docking Studies and in Silico Screening: NMT and GP Inhibitors as Case Studies. Journal of Chemical Information and Modeling 51(3): 647-669 (2011) (ISI IF for 2013 is 4.068)
- M. Taha, W. Zalloum, **K. Younis**, Discovery of New Mur-F Inhibitors via Pharmacophore Modeling and QSAR Analysis followed by in-silico screening. Bioorganic & Medicinal Chemistry. 2008. 16 (3), 1218-1235 (ISI IF for 2008 is 3.075)
- Al-Zoubi N, Kachrimanis K, Malamataris S, **Younis K**. Optimization of extended-release hydrophilic matrix-tablets by Support Vector Regression (SVR). 2011. Drug Development and Industrial Pharmacy. 37: 80-87.
- **K. Younis**, et. al., Cluster Merging Based on Weighted Mahalanobis Distance Clustering, IEEE National Aerospace and Electronics Conference, vol: 1, 1998. (Received Best Paper Award.)
- G. Abandah, M. Khedher, and **K. Younis**, "Handwritten Arabic Character Recognition Using Multiple Classifiers based on Letter Form". IASTED International Conference on Signal Processing, Pattern Recognition and Applications (SPPRA 2008), Feb 13-15, 2008, pp. 128-133, Innsbruck, Austria.
- **K. Younis**, B. Aldawood, G. Abandah, S. Alsisan, and J. Igual, "Automatic wireless monitoring of bird behavior," in Proc. 10th IASTED Int'l Conf. on Signal and Image Processing (SIP 2008), 2008, pp. 511-516, Hawaii, USA.
- **K. Younis**, M. DeSimio, and S. Rogers, A New Algorithm For Detecting The Optimum Number of Substructures in Data, IEEE National Aerospace and Electronics Conference, vol:1, 1997
- **K. Younis**, S. Rogers, and M. DeSimio, Vector Quantization Based on Dynamic Adjustment of Mahalanobis Distance, IEEE National Aerospace and Electronics Conference, vol:2, 1996
- Al-Zoubi N, Kachrimanis K, Malamataris S, **Younis K**. Optimization of extended-release hydrophilic matrix-tablets by Support Vector Regression (SVR) , 7th World meeting APV/APGI, Valetta, Malta, 8 – 11/3/2010. (Poster)
- **G. Abandah, M. Khedher**, K. Younis, "Evaluating and selecting features for recognizing handwritten Arabic characters," Technical Report, Computer Eng. Dept., The University of Jordan, Sep 2007